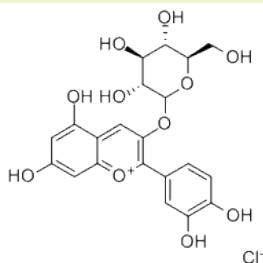
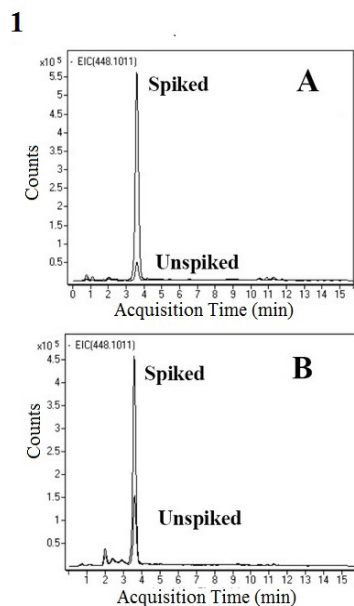


Phenolic Compounds in Jaboticaba Fruit

Comparison of extracts in fermented and non-fermented Jaboticaba Fruit Powder



| Compounds | Fermented JFP (mg/g) | Non-fermented JFP (mg/g) |
|---------------------------|----------------------|--------------------------|
| Quercetin | 0.264 | 0.009 |
| Myricetin | 0.029 | - |
| Ellagic Acid | - | 5.532 |
| Cyanidin-3-O-Glucoside | 0.180 | 0.952 |
| Delphinidin-3-O-Glucoside | 0.207 | 0.549 |



Notes: Jaboticaba (*Myrciaria Jaboticaba*) is a fruit native to Brazil that is popularly consumed as food or fermented beverages. The fruit is compared to grapes in the US and fresh fruit may begin to ferment 3-4 days after harvest. Alternate processes are used to extend shelf-life such as, jams, tarts wines and liquors.

Method Conditions

Column: Cogent Phenyl Hydride™, 4μm, 100Å

Catalog No.: 69020-10P-2

Dimensions: 2.1 x 100 mm

Solvents: A: Milli-Q Water/ 0.1% Formic Acid

B: Acetonitrile/ 0.1% Formic Acid

| Gradient: | time (min.) | %B |
|-----------|-------------|----|
| | 0 | 5 |
| | 1 | 10 |
| | 12 | 90 |
| | 14 | 90 |
| | 16 | 5 |

Flow rate: 0.4 mL/min

Detection: ESI-POS/NEG Agilent Model 6210 MSD TOF mass spectrometer

Samples: Fruit of the cultivar *Myrciaria jaboticaba*. Final concentration: 125 mg/mL. Quantification of phenolic compounds by standard addition.

Figure 1 Overlaid extracted ion chromatograms of cyanidin 3-O-glucoside in (A) fermented JFP and spiked fermented JFP and (B) non-fermented JFP and spiked non-fermented JFP.

Figure 2: Extracted ion chromatograms of representative phenolic compounds evaluated in jaboticaba fruit samples. (Page 2)

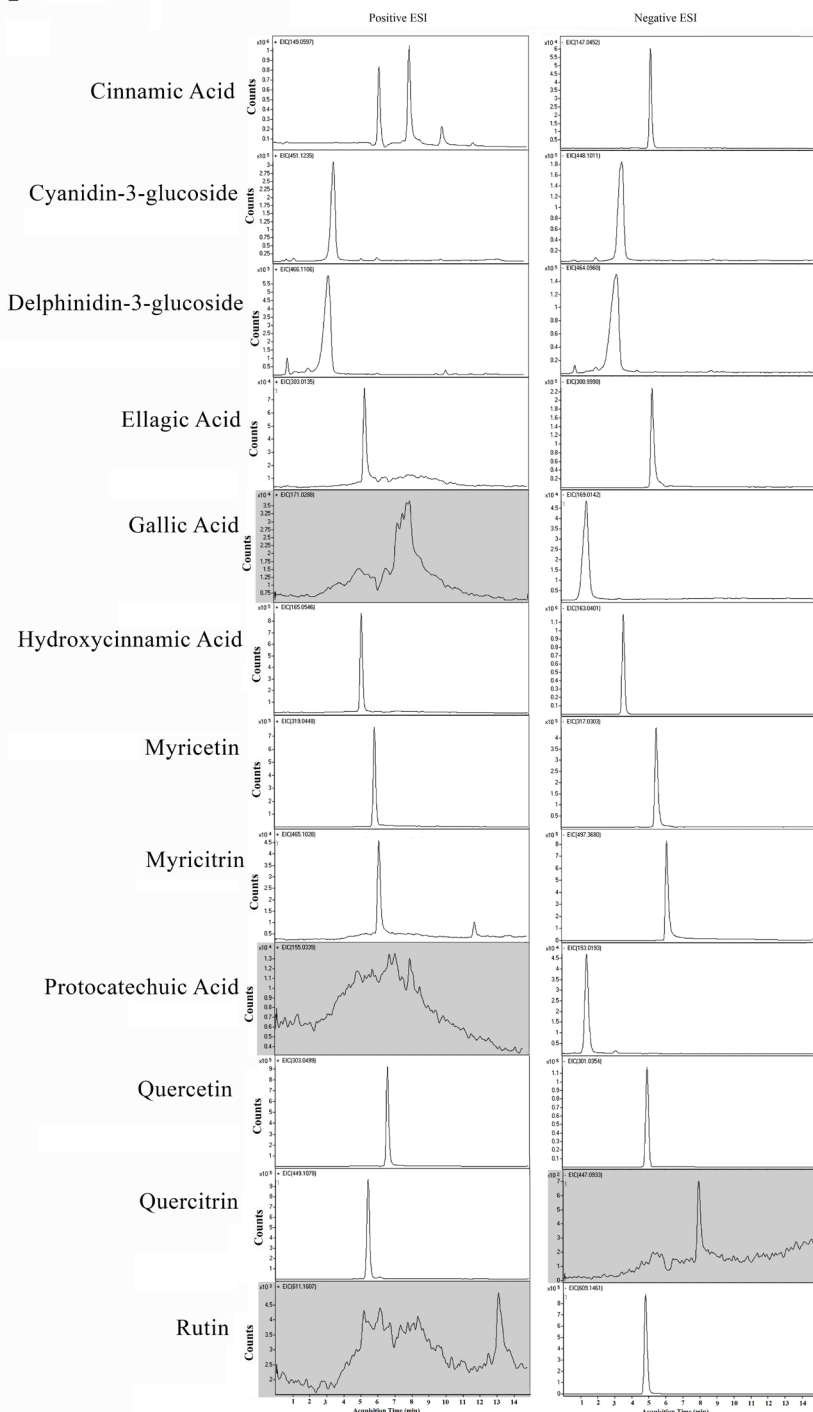
Discussion

This application compares quantification of cyanidin 3-O- glucoside (chromatogram shown in the figure 1). These additional compounds: quercetin, myricetin, ellagic acid and delphinidin-3-glucoside extracted from Jaboticaba fruit using HPLC/ESI-TOF-MS, are shown in figure 2. It is important to know the quantitation of the compounds before and after fermentation to optimize the valuable antioxidants for health benefits. This method, in conjunction with the Cogent Phenyl Hydride™, is designed to evaluate the content of the extracts. This study primarily focuses on comparative analysis of content in fermented/non-fermented jaboticaba fruit powder (JFP) produced from the species *Myrciaria jaboticaba* (Vell.) O. Berg. The simple, elegant analytical method developed using the Cogent phenyl column was used to determine the content of very potent compounds present in the extracts (continued on next page).

Phenolic Compounds in Jaboticaba Fruit

Comparison of extracts in fermented and non-fermented Jaboticaba Fruit Powder

2



Discussion

Quantified phenolic contents in fermented/non-fermented estimated by using standard addition. method is shown in table. This method, in conjunction with the Cogent Phenyl Hydride™, displays the partial separation achieved in two compounds possessing similar m/z values, quercetin and ellagic acid [1]

[1] S. Watanabe, M. T Matyska-Pesek, J. De J Berrios, G. R Takeoka, J. J Pesek, "HPLC/ESI-TOF-MS Identification and Quantification of Phenolic Compounds in Fermented/Non-Fermented Jaboticaba Fruit (*Myrciaria jaboticaba* (Vell.) O. Berg)", *Int. J. Food Sci*, 3, (5) (2018) 105-109.